

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: KOBAYASHI
Application No.: 10/563,302
Filed: 1/4/2006
Title: ELECTROSTATIC CHUCK FOR SUBSTRATE STAGE, ELECTRODE USED
FOR THE CHUCK, AND TREATING SYSTEM HAVING THE CHUCK AND
ELECTRODE
Art Unit: 2894
Exr.: MAI **Conf. No. 8395**

STATEMENT OF SUBSTANCE OF INTERVIEW

Commissioner For Patents
POB 1450
Alexandria, VA 22313-1450

June 18, 2010

Sir:

Appreciation is expressed to Exr. Mai for his courtesy and helpfulness during a telephone interview conducted in the above-identified application on June 9, 2010.

During the interview, Exr. Mai discussed the amendment filed on May 14, 2010 and certain issues which he still considered to exist regarding the present application. For example, Exr. Mai noted that no drawings show the claimed feature of mounting the substrate on the electrostatic chuck to provide the claimed relationship between the edge portions of the substrate and the rod-like electrodes of the electrostatic chuck. In reply, the undersigned attorney noted that although these relationships are not directly shown in the drawings, it is inherently understood from Fig. 4, which shows the arrangement of the rod-like electrodes of the chuck, Figs. 2A and 5, which show cross-sections of the substrate mounted on the chuck, with the short sides of the substrate G being slightly shorter than the width of the electrostatic

chuck, and the statement in paragraph 24 of the published application 2006/0164786 for this application, specifically:

“For example, the substrate G to be attracted by this electrostatic chuck 10 is a large-sized glass substrate for FPD. For example, the glass substrate measures 1100 mm by 1300 mm and has a thickness of about 0.63-0.70 mm. Therefore, the electrostatic chuck has to have a large sized substrate attraction surface fit to this size (for example, measuring 1120 mm by 1300 mm). “

In particular, the undersigned attorney noted that the words “fit to this size”, in conjunction with the recitations of the specific rectangular dimensions of the substrate support surface and the substrate itself, support the claimed relationship between the substrate and the substrate support (e.g., the electrostatic chuck). It was further noted that Fig. 2(a) correlates with the description of the short side of the electrostatic chuck being slightly larger (1120 mm) than the short side of the substrate G (1100 mm), noted above from paragraph [0024].

The next issue raised by Exr. Mai was the issue of how the claims distinguish over Fig. 2 of the cited Tanaka reference (USP 6,781,669). In particular, although the Examiner recognizes that Fig. 2 of Tanaka shows a round wafer not a rectangular one, he noted column 1, line 18 et seq. of Tanaka that teaches that Tanaka's invention can be used for LCD panels (which Exr. Mai stated would be rectangular), as well as for round semiconductor wafers. In reply, the undersigned attorney noted that, even if one were to transfer a rectangular panel in Tanaka, there is no teaching in Tanaka of the claimed feature that:

“which substrate mounting surface has overall rectangular dimensions with a longer side equal to or greater in length than the length of the rectangular substrate and with a shorter side equal to or greater in length than the shorter side of the rectangular substrate. “

Further, it was noted that the present claimed invention pertains to an electrostatic chuck to hold the substrate in position in a particular relationship to the rod-like

electrodes of the electrostatic chuck, whereas Tanaka appears to just slide the substrate over rod-like electrodes. In other words, in Tanaka, there is actually no fitted relationship, such as defined in each of the amended independent claims, between both the length and width of the substrate and the length and width of the electrostatic chuck substrate mounting surface.


More specifically, the undersigned attorney pointed out the discussion in paragraph [0019], for example, that the present claimed invention is directed to an arrangement in which a substrate stage 9 is mounted with a substrate G, and then both the substrate G and the substrate stage 9 are conveyed together to positions 9b, 9c, 9d and 9f of Fig. 1. In other words, the substrate remains on the substrate mounting surface of the electrostatic chuck and both removed together through the processing stages. In Tanaka, on the other hand, it is quite clear that the substrate moves by itself over a series of rod-like electrodes. In other words, in the present invention, the substrate remains fixed in its position relative to the rod-like electrodes of the electrostatic chuck, as clearly defined in the fitted relationship set forth in the independent claims, whereas, in Tanaka, the wafer moves relative to the rod-like electrodes.

At the conclusion of the interview, Exr. Mai indicated that he would consider these further comments before taking any additional action in this matter. Applicants and the undersigned attorney appreciate the Examiner's consideration regarding this.

If the Examiner believes that there are any points which may be clarified or otherwise disposed of, either by telephone discussion or by personal interview, the Examiner is invited to contact applicants' undersigned attorney at the number indicated below.

If any costs are due in connection with the filing of this paper, please charge them to the Deposit Account of Antonelli, Terry, Stout & Kraus, LLP, Dep. Acct. No. 01-2135 (45730X00), and please credit any excess fees to such deposit account.

Respectfully submitted,
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